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ABSTRACT

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A Study of Quantifier Phrases in Thai

Phawadee Deephuengton

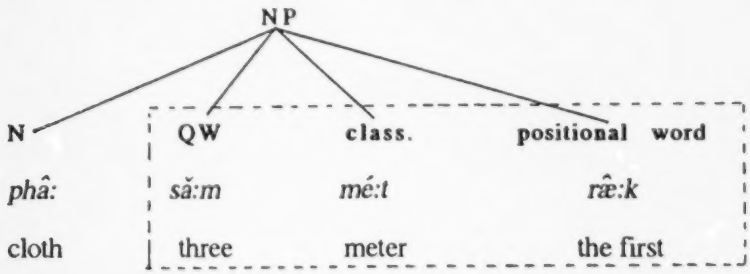
Abstract: The structures of quantifier phrases in Thai are studied in the X -Syntax framework (Jackendoff 1977). Syntactic and Semantic arguments are provided to prove that this model remedies the deficiency of traditional and early transformational grammar as it provides insightful analyses based on distinctions between intermediate level nodes which display internal hierarchical structures as well as the linear structure of the phrase. In addition, this leads to an account of the different meanings of the structure itself.

A quantifier phrase in Thai always has a noun as its first element.

(1) [$_{NP}$ *phâ:* *sǎ:m* *mé:t* *rǽ:k*]$_{NP}$
cloth three class. the first

the first three meters of cloth

The quantifier phrase is somehow embedded in the NP. We cannot yet classify the constituents within this NP because we have to provide arguments for it whether syntactic or semantic. However, if we attempt to diagram the NP in (1) as follows:



the first three meters of cloth

we will encounter a number of immediate problems, i. e., this model provides only the most meager structural framework for the syntactic units. Quite clearly, we cannot suspend all the constituents in (1) from the same node. Such an analysis ignores the fact that the NP has internal hierarchical structure as well as a linear structure which can account for potentially different meanings of the structure itself

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Kansas Working Papers in Linguistics, Volume 17, Number 1, 1992, pp. 223-255

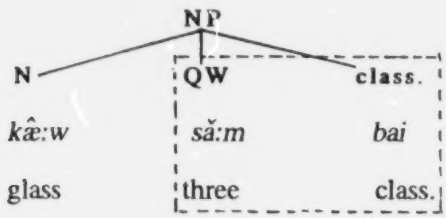
because one might argue that this NP may mean 'the three first meters of cloth' or 'three meters of the first cloth,' etc. rather than 'the first three meters of cloth.'

To see this clearly, consider the quantifier phrase in (2a) and its associated diagram (2b) provided by the phrase structure rule.

(2) a. *kâ:w* *să:m* *bai*
glass three class.

three glasses

b.



three glasses

Empirical arguments to support the position that the quantifier phrase is embedded and attached at a different level within the NP are provided by using standard constituent structure 'tests': deletion, substitution, and conjunction.

(3) a. *dæ:ŋ* *mi:* *kâ:w* *să:m* *bai*
Dang have glass three class.

Dang has three glasses.

b. *dæ:ŋ* *mi:* *kâ:w* *thâurai*
Dang have glass how many

How many glasses does Dang have?

c. *dæ:ŋ* *mi:* **e** *să:m* *bai*
Dang have three class.

Dang has three.

In (3b) *să:m bai* can be substituted for *thâurai* in response to questions, and in (3c) which is the answer to (3b) the word *kâ:w* (glass) has been left out as the understood constituent (**e**). *să:m bai* can occur alone without its head noun *kâ:w*.

This proves that *săːm bai* constitutes a constituent. It is an 'internal unit' within its own phrase (NP): *kâːw săːm bai*

(4) a. *dæːŋ mi: kâːw săːm bai*
Dang have glass three class.

Dang has three glasses.

b. *dam kɔ̂: mi: e săːm bai*
Dam also have three class.

Dam also has three.

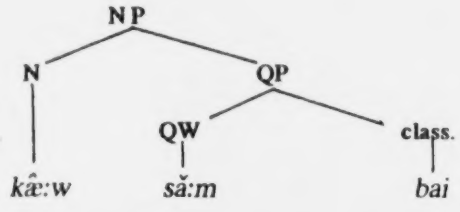
c. **dam kɔ̂: mi: e săːm phĭːn*
Dam also have three class.

Dam also has three.

(4c) shows additional evidence that *kâːw* has been deleted from the NP due to the ungrammaticality of the sentence. *phĭːn* is the classifier used with *sĭa* (mat). The native speaker intuitively knows that the deleted unit is *kâːw* (glass) not *sĭa* (mat). If *phĭːn* is unacceptable in (4c), it clarifies the point that there is something deleted or else every classifier could be used in this slot without making the sentence unacceptable. This can be accounted for by a co-occurrence restriction, i. e., the head noun in NP selects its classifier; for instance, *kâːw* selects *bai*, *sĭa* selects *phĭːn* etc.

From the arguments proposed, we may tentatively claim that the NP *kâːw săːm bai* has the structure below:

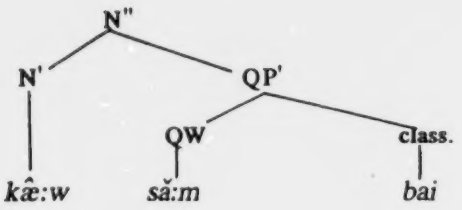
(5)



This diagrammatic representation in (5) has not yet clearly displayed how the constituents are attached at the different levels as to show larger phrasal expansions

of a given head constituent. I adopt the system of X'-Syntax to label the different level attachments as follows:

(6)



In (6) *kâ̂æ:w* is under N' node because it is a head noun and its projection to N" denotes the larger phrasal expansion. QP' modifies N', thus it attaches to the N" node and expands the scope of N' into N" which corresponds to the traditional category of NP.

Another syntactic argument to support that *kâ̂æ:w* of N' is definitely separated from QP' can be seen from the evidence in (7).

(7) a. *kâ̂æ:w aŋkrìt sǎ:m bai*
glass English three class.

three English glasses

b. *dæ:ŋ mi: kx̂:w aŋkrìt thâurai*
Dang have glass English how many

How many English glasses does Dang have?

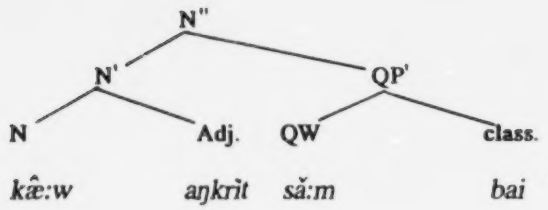
c. *dæ:ŋ mi: e sǎ:m bai*
Dang have three class.

Dang has three.

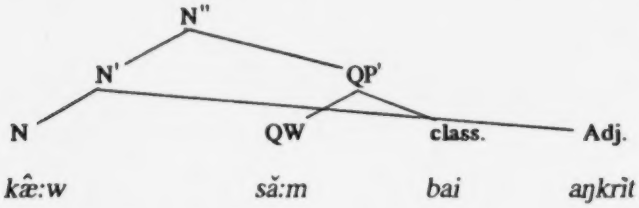
d. **dæ:ŋ mi: e sǎ:m bai aŋkrìt*

(7c) shows that the whole chunk of *kâ̂æ:w aŋkrìt* can be deleted. This means that *aŋkrìt* goes together with N *kâ̂æ:w* not QP' *sǎ:m bai*. That is why when we move the element *aŋkrìt* and attach it with QP' *sǎ:m bai* in (7d), the sentence becomes unacceptable. Moreover, it is even clearer to see the evidence in the diagrammatic structure in (8) and (9).

(8)



(9)



(8) is the structure associated with (7a). (9) is ruled out because it violates the 'no crossing of branches' restriction. (8) contains no crossing branches, and thus is well-formed. This argument strongly supports placing *kâ̆:w* at the N' level and *sǎ:m bai* of the QP' at the N" level.

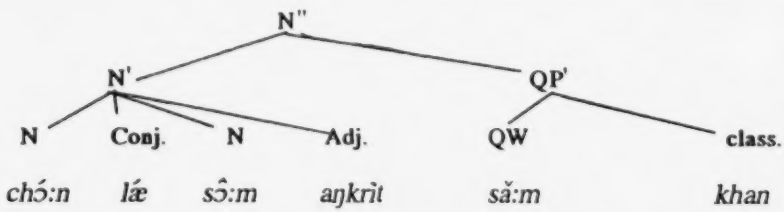
A further argument to support the prediction about the different nodes of N' and N" can be captured by using the conjunction test.

(10) *dæ:ŋ mi: chɔ́:n lǽ sɔ̂:m aŋkrìt sǎ:m khan*
Dang have spoon and fork English three class.

Dang has three English spoons and forks.

In (10) the noun *chɔ́:n* (spoon) and *sɔ̂:m* (fork) select the same classifier *khan* so they can be conjoined under the same node as displayed in the tree diagram (11).

(11)



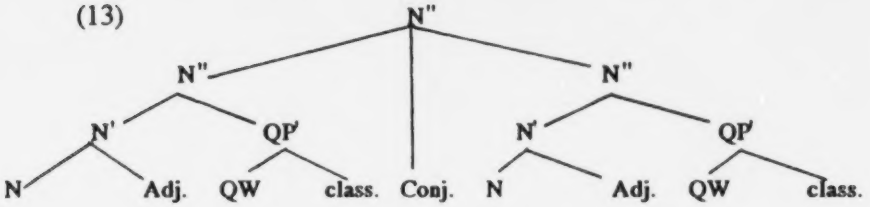
On the other hand, if the nouns do not select the same classifier, they cannot be conjoined under the same node. Let's look at the structure in (12) and its associated diagram (13) to elucidate the point.

(12) *dæ:ŋ mi: mî:t aŋkrìt sǎ:m lêm*
Dang have knife English three class.

lǽ sɔ̂:m aŋkrìt sǎ:m khan
and fork English three class.

Dang has three English knives and forks.

(13)



From (13), we can see that if the nouns do not select the same classifier, there will be a repetition of the N". The super N-double-prime has to be proposed in this case.

The data of the quantifier phrases I have provided so far is not exhaustive. As a matter of fact, there can be more elements attached within the quantifier phrase. I categorize all the elements that can occur within the quantifier phrase in the following table.

Syntactic functions	Quantification premodifiers				Head	Quantification postmodifier		
Types of words	Preadv.	Degree word	QW	DW	Classifier	Residual word	Seminumeral	Postadv.
Examples	กี:k 'again'	sàk khæ̀: 'just' phiaŋ 'half'	1-9	sìp 'the tenth'	bai 'classifier'	kwà: 'plus'	ræ:k 'the first' thí:niŋ	thâunán 'only'
		chìat jìap 'almost' kìap 'fourth' rûam	khɔ̀:n 'the hundreds'		phĭn 'half' for glass'	'the last'		'exact amount'
		náp thĭŋ 'up to' ruam many,	'certain'	sands'	'classifier la:i 'the ten'	mɨn	khan for knife'	
		thúk tháŋ every'	'all, much'	thousands'	'classifier pràma:n 'the hundred'	sæ̌:n	for spoon'	
		kə:n 'more than'	about'	thousands'	'the hundred lá:n 'the millions'			

QW = Quantity word

DW = Digital word

At this point, I claim that the classifier functions as the head of the quantifier phrase. The argument to support this claim is as follows:

(14) a. *dæ:ŋ* *mi:* *kæ̂:w* *tháurai*
Dang have glass how many

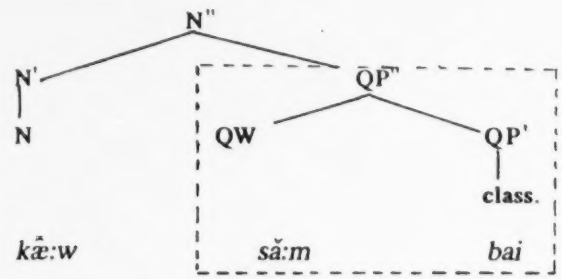
How many glasses does Dang have?

b. *dæ:ŋ* *mi:* *kæ̂:w* **e** *bai*
Dang have glass class.

Dang has one.

In (14b), which is the answer to (14a), the classifier *bai* substitutes for *thâurai*. The quantity word (cardinal) can be deleted. We have already shown that N *kæ̂:w* is a separate node from the QP' from the previous argument. Now, we are going to concentrate only on the QP' (**e** *bai*). Since the quantity word can be deleted, it is obvious that there must be some internal structure within the QP itself. Nonetheless, note that the cardinal deleted here is only the number 'one.' When the QP is expressed only with the classifier, the number of objects perceived intuitively by the native speaker is only 'one.' As far as the evidence is expressed, we may have to re-diagram the structure as follows:

(15)



In (15) *bai* is the head of the quantity phrase under QP' and its projection to QP" denotes the larger phrasal expansion. QW modifies QP', thus it comes off QP" node and expands the scope of QP' into QP" which corresponds to the category QP.

I will see how the elements of the quantifier phrase get attached to the head of the quantifier phrase.

(16) *kæ̂:w* *khx̂:* *sǎ:m* *bai*
glass just three class.

just three glasses

We do not know how *khâ:* gets attached to *să:m bai*. The way to proceed is to try a constituent structure test.

(17) a. *dæ:ŋ mi: kâ:w khâ: să:m bai*
Dang have glass just three class.

Dang has just three glasses.

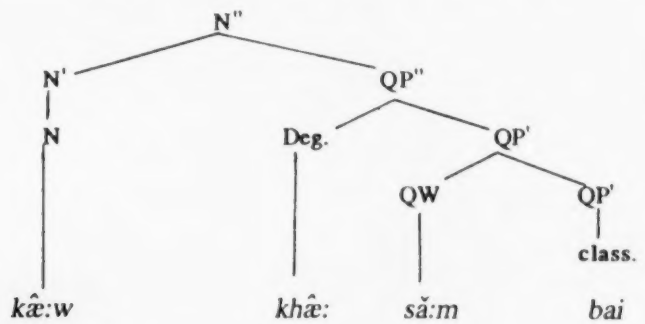
b. *dæ:ŋ mi: khâ: thâurai ná* (echo question)
Dang have just how many particle

Dang has just how many?

c. *dæ:ŋ mi: e să:m bai*

The native speaker's perception of the answer to an echo question[4] and a common question is quite different. (17c) is an answer to the echo question (17b) in which the native will perceive the missing element as *khâ:* (cf. a common question in (3b) and its associated answer (3c). This proves that *khâ:* must be attached to another level as follows from the previous deletion test so far. The following tree diagram represents the structure for *kâ:w khâ: să:m bai*

(18)



(19) *kâ:w ʔi:k khâ: să:m bai*
glass again just three class.

just three more glasses

In (19), again, we will find the argument where *ʔi:k* is attached to by using the same test.

(20) a. *dæ:ŋ mi: kầ:w ʔi:k khầ: sǎ:m bai*
Dang have glass again just three class.

Dang has just three more glasses.

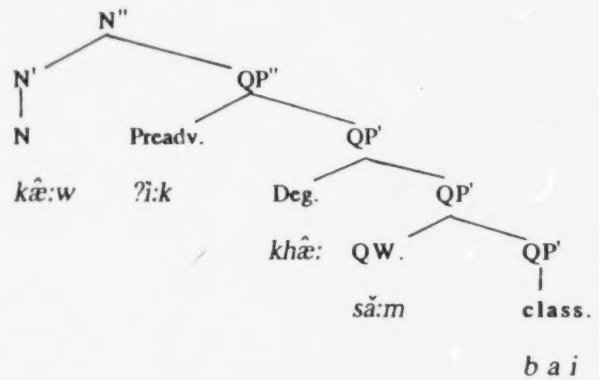
b. *dæ:ŋ mi: ʔi:k khầ: thâurai ná* (echo question)
Dang have again just how many particle

Dang has just how many more?

c. *dæ:ŋ mi: e khầ: sǎ:m bai*

In (20c), the deleted element is perceived as *ʔi:k*. Consequently, *ʔi:k* must be attached to another level within the phrase. Nonetheless, we might notice that *sǎ:m, khx̂:, ʔi:k* have the same function within the phrase, i. e., they modify the head classifier. Moreover, they are optional elements and recursive. (21) represents (19).

(21)



(22) *kầ:w sǎ:m bai thâunán*
glass three class. only

only three glasses

In (22), *thâunán* occurs after the head classifier. We still have to adopt the same test to see how *thâunán* interacts within the QP.

(23) a. *dæ:ŋ mi: kầ:w sǎ:m bai thâunán*
Dang have glass three class. only

Dang has only three glasses.

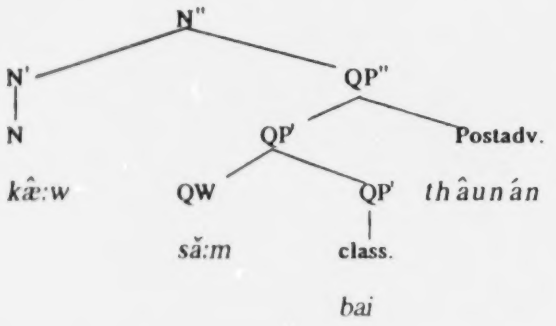
b. *dæ:ŋ mi: kì: bai thâunán ná* (echo question)
Dang have how many class. only participle

Dang has how many only?

c. *dæ:ŋ mi: sǎ:m bai* e

In the same fashion, the deleted element in (23c) is understood as *thâunán* So it must be attached at another level. The only difference from *ʔi:k* , and *khâ:* is that it is postmodifier.

(24)



(24) represents the diagrammatic structure of (22).

(25) *kâ:w khâ: sǎ:m bai thâunán*
glass just three class. only

just only three glasses

(26) *kâ:w ʔi:k khâ: sǎ:m bai thâunán*
glass again just three class. only

just only three more glasses

From (25) and (26), we will use the same deletion test and put them in the tree diagrams.

(27) a. *dæ:ŋ mi: kâ:w khâ: sǎ:m bai thâunán*
Dang have glass just three class. only

Dang has just only three glasses.

b. *dæ:ŋ mi: khâ: kì: bai thâunán ná* (echo question)
Dang have just how class. only particle
many

Dang has just how many only?

c. *dæ:ŋ mi: khâ: sǎ:m bai*

(28) a. *dæ:ŋ mi: kâ:w ʔì:k khâ: sǎ:m bai thâunán*
Dang have glass again just three class. only

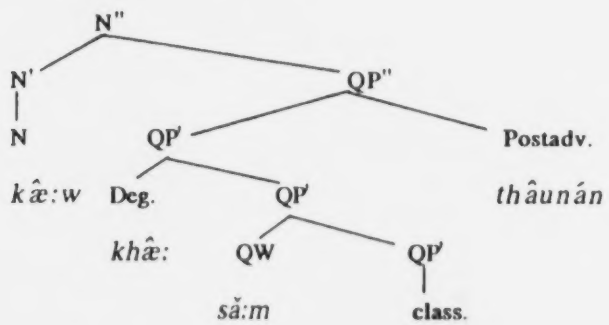
Dang has just only three more glasses.

b. *dæ:ŋ mi: ʔì:k khâ: kì: bai thâunán ná* (echo question)
Dang have again just how class.only particle

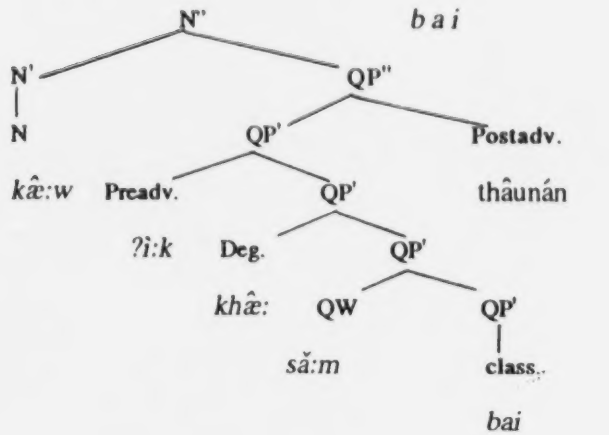
Dang has just only how many more?

c. *dæ:ŋ mi: ʔì:k khâ: sǎ:m bai* e

(29)



(30)



(29) and (30) represent (25) and (26) respectively. It is needless to repeat the same explanation as to how *thâunán* is attached within the QP. But the obvious evidence that supports why the postadverb comes off the QP" and modifies the whole chunk of *săːm bai, khâː săːm bai,* and *ʔiːk khâː săːm bai* underscored in (23c), (27c), and (28c) respectively, is that we have to repeat every element before the empty element <u>*thâunán.*</u>

(31) *phâː sìp méːt kwàː*
cloth ten class. plus

ten meters of cloth plus

In (31), *kwàː* is one of the postmodifiers and acts the same way as *thâunán.*

(32) a. *dæːŋ miː phâː sìp méːt kwàː*
Dang have cloth ten class. plus

Dang has ten meters of cloth plus.

b. *dæːŋ miː kìː méːt kwàː náˊ* (echo question)
Dang have how class. plus particle
many

Dang has how many plus?

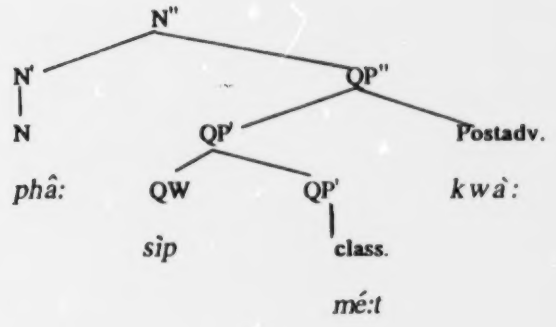
c. *dæːŋ miː* <u>*sìp méːt*</u> e

If we attach *khâː* and *ʔiːk khâː* to (31) and go through the deletion test we will get:

(33) a. *dæːŋ miː* <u>*khâː sìp méːt*</u> e

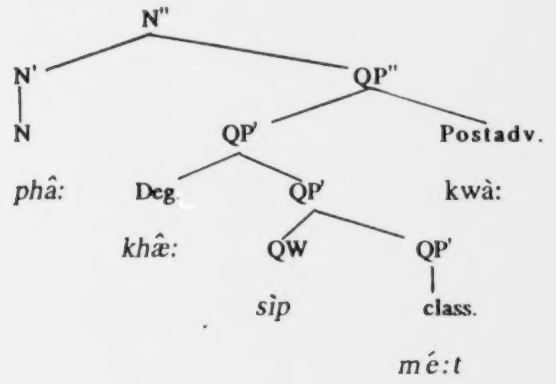
b. *dæːŋ miː* <u>*ʔiːk khâː sìp méːt*</u>

(34)



phâ: sìp mé:t kwà:

(35)



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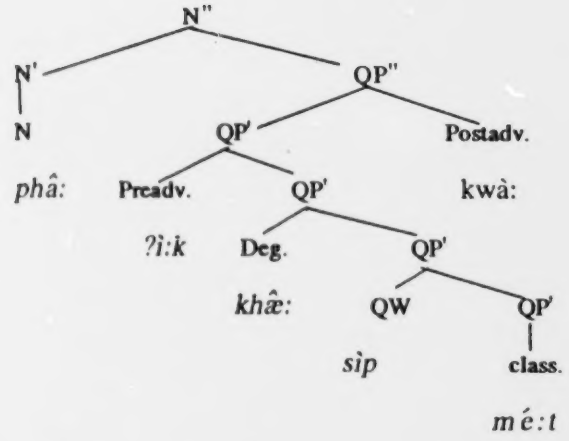


phâ: ?i:k khâ: sìp mé:t kwà:

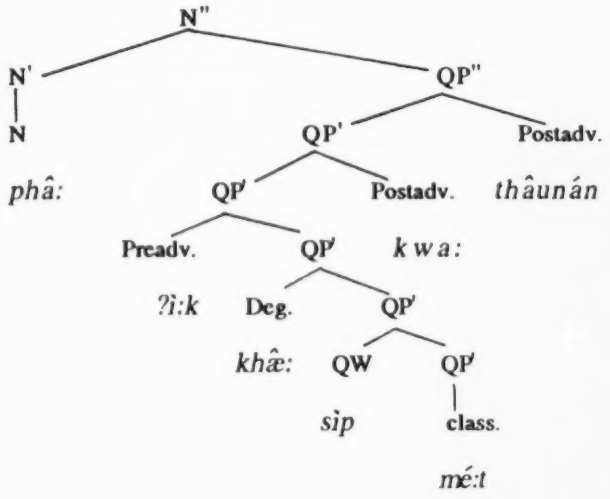
We know that the postadverb *kwà:* attaches to the QP" and modifies the whole QP' *ʔi:k khâ: sìp mé:t* from the evidence in (32c), (33a), and (33b) such that we have to repeat every element before the empty element *kwà:*.

(37) *phâ: ʔi:k khâ: sìp mé:t kwà: thâunán*
cloth again just ten class. plus only

only just ten more meters of cloth plus

(37) represents the quantifier phrase which contains the most elements. (38) is its associated diagrammatic representation.

(38)



The argument to support placing *thâunán* in the outermost layer of the quantifier phrase is from the evidence in (39) below:

(39) a. *dæ:ŋ mi: phâ: ʔi:k khâ: sìp mé:t kwà: thâunán*
Dang have cloth again just ten class. plus only

Dang has only just ten more meters of cloth plus.

b. *dæ:ŋ mi: ʔi:k khâ: kì: mé:t kwà: thâunán* (echo question)
Dang have again just how class. plus only particle
many

Dang has only just how many plus?

c. *dæ:ŋ mi: ʔi:k khâ: sìp mé:t kwà:* e
Dang have again just ten class. plus

Dang has just ten plus.

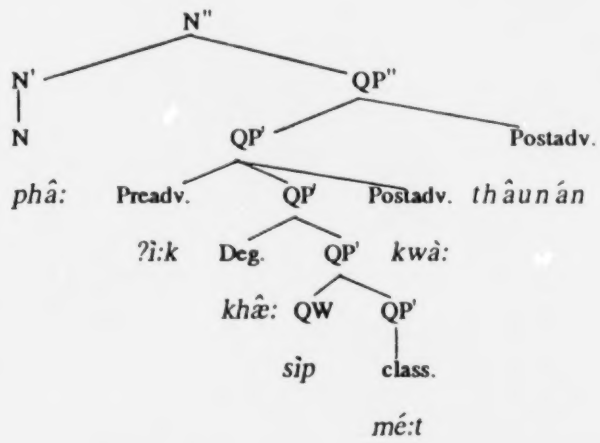
In (39c), we have to repeat every element before the empty element *thâunán*. Hence, *thâunán* is the outermost layer of the QP. Moreover, There are no phrase like (40) which is additional evidence to prove the status of *thâunán*.

(40) **phâ: sìp mé:t thâunán kwà:*
cloth ten class. only plus

If we use brackets to show the constituents, it goes as follows:

(41) [*phâ:* [[[*ʔi:k* [*khâ:* [*sìp* [*mé:t*]]]] *kwà:*]*thâunán*]]
NP NP

(41) a.



(41a) is the modified tree diagram from (38). The reason why the postadverb *kwà:* attaches to QP' is that *kwà:* modifies the whole chunk of *ʔi:k khâ: sìp mé:t* as already been proven earlier. The postadverb *thâunán*, proven as the outermost layer of the QP, attaches to QP", denoting the larger phrasal expansion. It modifies the whole chunk of *ʔi:k khâ: sìp mé:t kwà:*.

A further semantic argument to support that *kwà:* and *thâunán* are postmodifiers of the quantifier phrase is from the restriction of the question word used with these two elements in the echo question test frame. We have to use *kì:*

(how many) + classifier (accorded with the given noun) with postadverbs *kwà:* and *thâunán* . On the other hand, with premodifiers: Preadverb, Degree word, QW, we have to use the question word *thâurai* . *thâurai* includes a semantic notion of general classifier.

(42) *dæ:ŋ mi: mî:t lǽ sɔ̂:m thâurai*
Dang have knife and fork how many

How many knives and forks does Dang have?

(43) **dæ:ŋ mi: mî:t lǽ sɔ̂:m kì: khan*
Dang have knife and fork how many class.

How many knives and fork does Dang have?

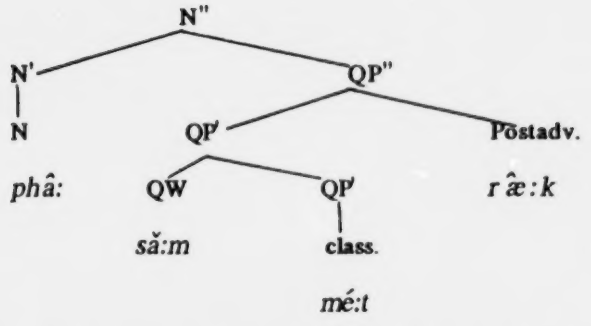
In (42), *mî:t* and *sɔ̂:m* do not select the same classifier. *mî:t* selects *lêm* while *sɔ̂:m* selects *khan*. However, we can use *thâurai* to make a question form. In addition, the ungrammaticality of (43) helps prove that *thâurai* has the semantic notion of a general classifier because we cannot use '*kì:* + classifier' the same way as *thâurai*. Unlike *thâurai*, *kì:* must be used with a specific classifier according to its selectional restrictions.

We can now address the problem proposed at the beginning of how we know the meaning of the quantifier phrase:

(44) *phâ: sǎ:m mé:t rǽ:k*
cloth three class. the first

is 'the first three meters of cloth' rather than 'the three first meters of cloth' or 'three meters of the first cloth.' We have already been provided with the syntactic arguments for the different levels of attachment for the QP. A further argument in support of this is of a semantic nature.

(45)



In (45), *săːm* is closely linked to its head classifier and they have already been proven to be in the same constituent. The internal hierarchical structure tells us that the constituent [*săːm* [*méːt*]] is embedded in the constituent [[*săːm* [*méːt*]] *râːk*]. *săːm* modifies *méːt* and *râːk* modifies the whole constituent of *săːm méːt*. Thus, we obtain the first reading as the correct one.

(46) *phâ: méːt nìŋ*
cloth class. one

one meter of cloth

(46) is one of the few quantifier phrases that have reversed the order of cardinal and classifier. As a matter of fact, in Thai, the word order is generally fixed. Moreover, the only cardinal number that can occur in this position is *nìŋ* (one). There is no quantifier phrase in Thai like (47).

(47) **phâ: méːt săːm*
cloth class. three

three meters of cloth

The reversed order of classifier + cardinal can occur in more complicated QP as follows:

(48) a. *phâ: méːt nìŋ*

b. *phâ: méːt nìŋ thâunan*

c. *phâ: khâæ: méːt nìŋ*

d. *phâ: khæ̂: mé:t nìŋ thâunan*

e. *phâ: ʔí:k khæ̂: mé:t nìŋ*

f. *phâ: ʔí:k khæ̂: mé:t nìŋ thâunan*

nìŋ is moved across the classifier but not across the postadverb *thâunán* and *kwà:*, and also not across the premodifiers *ʔí:k* and *khæ̂:*

(49) a. **phâ: mé:t kwà: nìŋ*

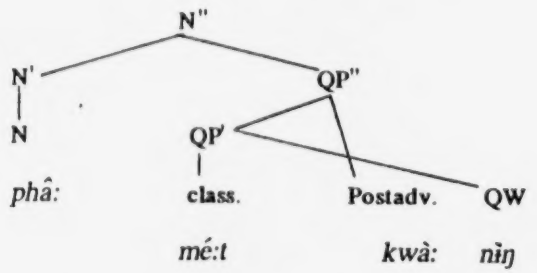
b. **phâ: mé:t thâunán nìŋ*

c. **phâ: nìŋ ʔí:k mé:t*

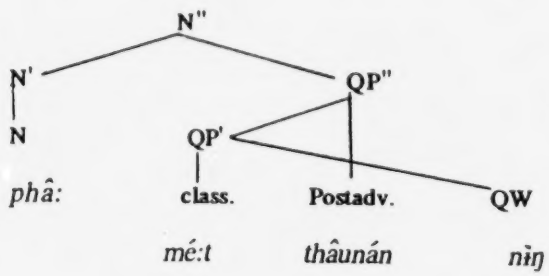
d. **phâ: nìŋ khæ̂: mé:t*

The evidence from (49a, b, c, d) proves that *nìŋ* can move only within its own internal structure and this also supports the argument that each element has its own level of attachment.

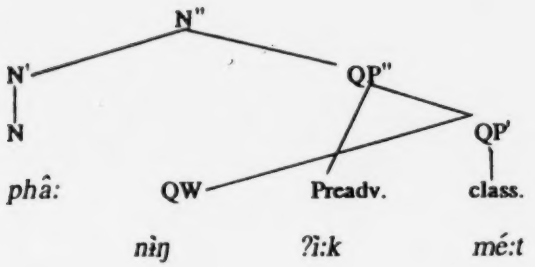
(50) a.



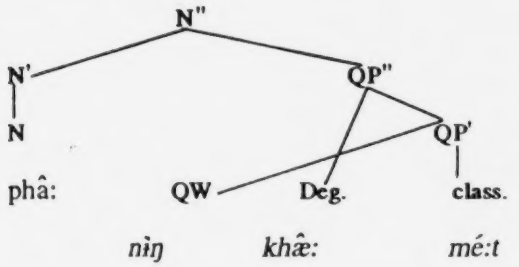
b.



c.



d.



(50 a, b, c, d) show that the movement of nìŋ violates the 'no crossing of branches' restriction. Thus they all are ruled out.

The transformational rule that can account for the structure of classifier + cardinal is '*nìŋ* Movement.''

' nìŋ Movement' (optional)

S.D:	x	*nìŋ*	classifier	y
	1	2	3	4
S.C:	1	0	3+2	4

This is a local transformation, for, the movement only occurs between adjacent constituents (local node).

The movement of *nìŋ* across the classifier node gives rise to some phrasal structures that need to pass a semantic filter.

(51)

**phâ:*	*mé:t*	*nìŋ*	*kwà:*
cloth	class.	one	plus

a meter of cloth plus

(52) *phâ: mé:t kwà:*
cloth class. plus

a meter of cloth plus

(53) **phâ: mé:t niŋ ræ̂:k*
cloth class. one the first

the first meter of cloth

(54) *phâ: mé:t ræ̂:k*
cloth class. the first

the first meter of cloth

When *niŋ* is moved across the classifier node and followed by the postmodifier *kwà:* and *râ:k*, *niŋ* must be deleted. But the empty element is still perceived as *niŋ* by the native speakers. This is because *kwà:* and *râ:k* always semantically contain the notion of 'singularity.' *niŋ* is a part of their meaning so their combination with *niŋ* will be redundant. These two words act as a semantic filter to rule out quantifier phrases like (51) and (53).

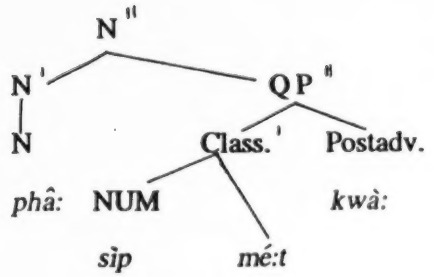
The *niŋ* that appears after the classifier can also be viewed as a postmodifier. (51) and (53) are ungrammatical because all three postmodifiers *niŋ*, *kwà:*, *râ:k* can only appear in a single postmodifier position. This is a case where one lexical item can have two functions but still carries the same meaning. So both cardinal *nîŋ* and postmodifier *niŋ* are derived from the phrase structure rule. Thus, there is no need for a transformational rule if the phrase is analyzed in this way.

There are still some quantifier phrases in which the different word orders create differences in meaning.

(55) *phâ: sìp mé:t kwâ:*
cloth ten class. plus

ten meters of cloth plus
(a little bit more than ten but not eleven)

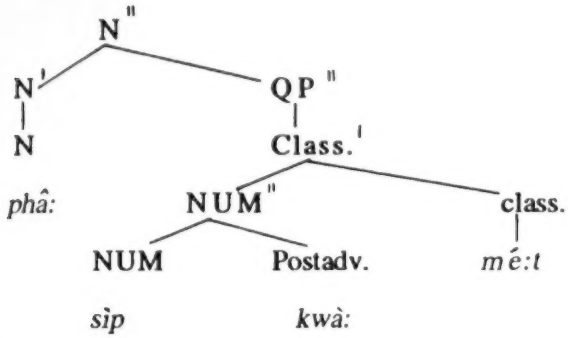
(55) a.



(56) *phâ: sìp kwà: mé:t*
cloth ten plus class.

ten meters of cloth plus.
(up to nineteen but not twenty)

(56) a.



(55) and (56) have different meanings as mentioned above. (55) has its meaning as such because *kwà:* expresses the meaning of 'plus 1 unit.' This is why the meaning perceived by the native speaker is a bit more than the number given but not up to the following number; for instance, if the given number is '10' then '10 plus' in this situation is equal to 10 + .01-.99 but not 11. In this case, the focus is on the classifier *mé:t*. Every cardinal can occur before the classifier in this phrasal structure. On the other hand, (56) has its meaning as ten meters of cloth plus (up to nineteen but not twenty). The important fact in this structure is that the only cardinals that can occur before the classifier are digital words as in (57).

(57) *phâ:* *sìp* *kwà:* *mé:t*
cloth ten plus class.

rɔ́:j
'hundred'

phan
'thousand'

mɨ̀n
'ten thousand'

sǎ̆:n
'hundred thousand'

lá:n
'million'

There are no phrase like (58)

(58) **phâ:* *sǎ:m* *kwà:* *mé:t*
cloth three plus class.

Since not every cardinal can occur in the phrasal structure like (57), there must be a difference in meaning between (55) and (56). As a matter of fact, we can provide an explanation by using a semantic argument. (56) means ten meters of cloth plus (up to nineteen but not twenty): 10 + 1-9.99 but not 20 and if the number is 100, the plus number is 1-99.99 not 200 etc. In this case, the focus is on the cardinal (all the digital words). These two examples demonstrate the subtle range of meanings created by the different word orders. As far as the evidence goes, they are more or less accounted for by the constituent structures.

There are still some more interesting facts about numbers in QP. Thai uses the decimal system for numbers.

(59) *sìp* = 10
'ten'

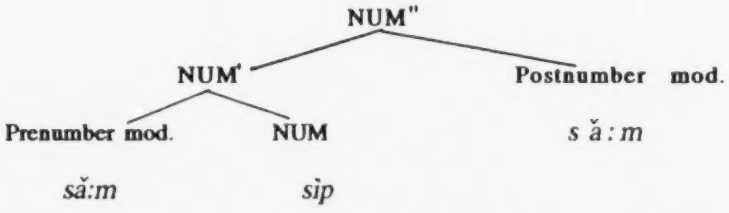
(60) *sǎ:m sìp* = 30: (3x10)
'three ten'

(61) *sìp sǎ:m* = 13: (10+3)
'ten three'

(62) *sǎ:m sìp sǎ:m* = 33: [(3x10)+3]
'three ten three'

(60) and (61) have structural difference between the prenumber and postnumber modifiers. The prenumber expresses 'multiplication,' but the postnumber modifier expresses 'addition.'

(63)



In (63), the number phrase has been proposed. The evidence that *sǎ:m* (postnumber modifier) attaches to the upper level node (NUM") is that logically the operation of multiplication precedes the operation of addition. If the operations were performed in the opposite order, the result would be 39 rather than 33. The number phrase is the most internal structure within the QP. It modifies the head classifier. Clearly enough, this answers why we have a difference in meaning between *sǎ:m sìp kwà: mé:t* and *sǎ:m sìp mé:t kwà:*.

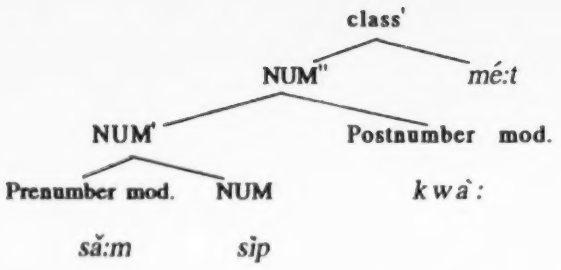
(64) *sǎ:m sìp kwà: mé:t*
three ten plus class.

thirty plus (up to thirty nine but not forty)

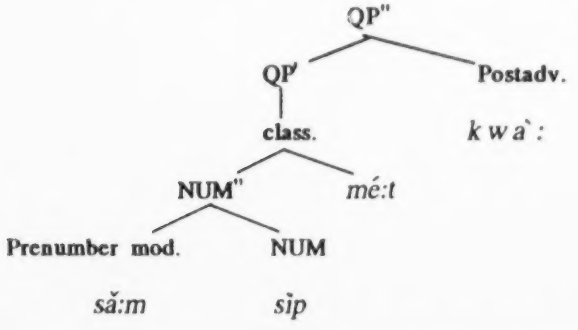
(65) *sǎ:m sìp mé:t kwà:*
three ten class. plus

thirty plus (a little bit more than thirty but not up to thirty one)

(66)



(67)



(66) and (67) are the associated phrase markers of (64) and (65) respectively. In (66), the number phrase modifies the head classifier *mé:t*. *kwâ:* becomes postnumber modifier modifying *sǎ:m sìp* in the very internal structure of QP, but in (67) *kwà:* is postadverb (QP'') modifying *sǎ:m sìp mé:t* in QP'.

(68) **sǎ:m sìp sǎ:m kwà: mé:t*

(68) is unacceptable because there is a restriction on the postnumber modifier. There is only one place in the phrase marker for the element. We have to choose between lexical items *kwà:* and the cardinal numbers.

prenumber modifier + number + postnumber modifier

$$\begin{bmatrix} \text{sǎ:m}^{2} \\ \text{kwà:} \end{bmatrix}$$

(69) *săːm sìp săːm méːt kwàː*
three ten three class. plus

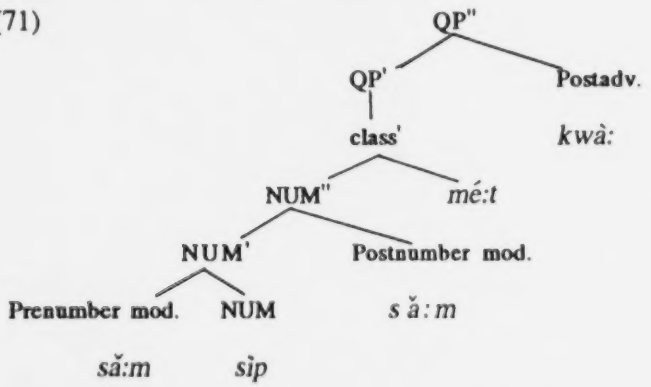
thirty three meters plus

(69) is well-formed because *săːm* is chosen to fill the postnumber modifier instead of occurring together with *kwàː* which leads to the unacceptability of (70)

(70) **săːm sìp săːm kwàː méːt*
three ten three plus class.

The phrase marker of (69) is displayed in (71).

(71)



Now we can include the number phrase which is the very internal structure within QP and makes the most complicated QPs as follows:

(72) *phâː ʔíːk khæ̂ː săːm sìp săːm méːt kwàː thâunán*
cloth again just three ten three class. plus only

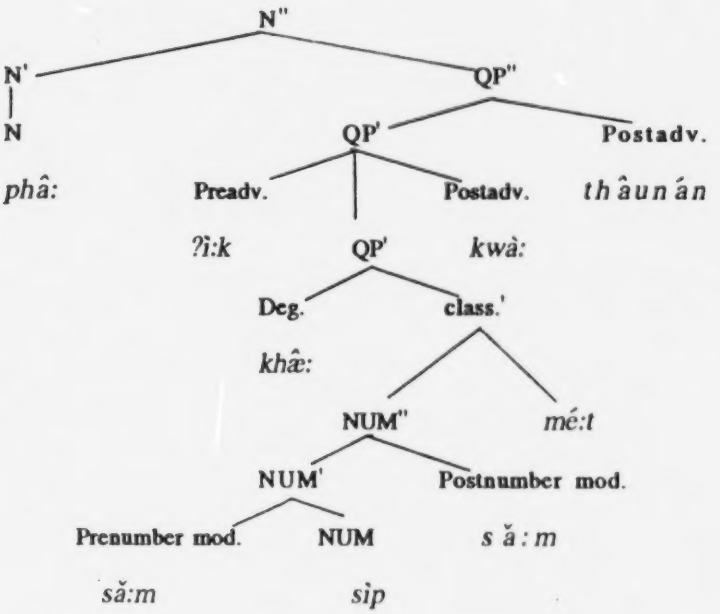
just only thirty three meters of cloth plus more
(a little bit more than thirty three meters of cloth but
not to thirty four meters)

(73) *phâː ʔíːk khæ̂ː săːm sìp kwàː méːt thâunán*
cloth again just three ten plus class. only

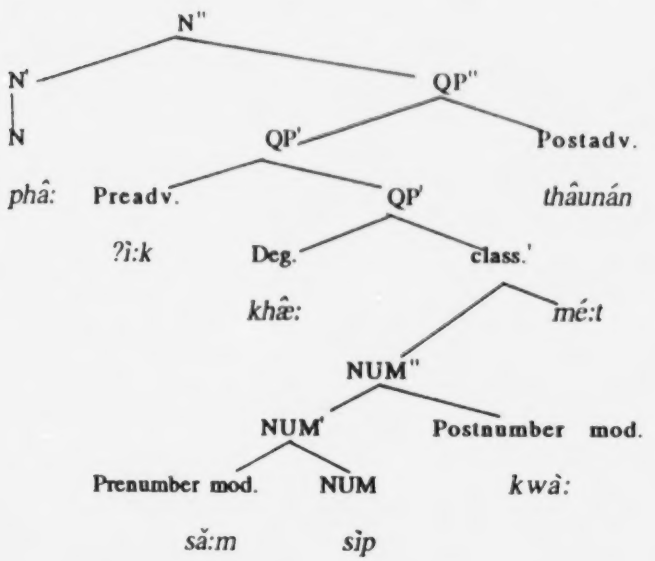
just only thirty meters of cloth plus more
(up to thirty nine but not forty meters of cloth)

(74) and (75) are the associated phrase markers of (72) and (73) respectively.

(74)



(75)



The other two things to observe within the quantifier phrase is how it interacts with demonstrative adjectives and prepositional phrases.

(76) *phâ: săːm méːt níː thâunán*
cloth three class. these only

only these three meters of cloth

(77) a. *dæːŋ miː phâː săːm méːt níː thâunán*
Dang have cloth three class. these only

Dang has only these three meter of cloth.

b. *dæːŋ miː phâː kìː méːt năi thâunán ná* (echo question)
Dang have cloth how many class. which one only particle

Dang has how many only?

c. *dæːŋ miː săːm méːt níː* e
Dang have three class. these

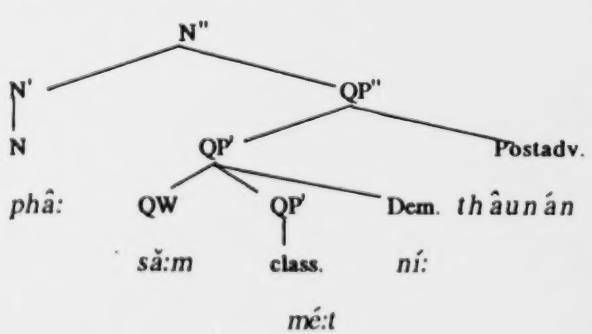
Dang has these three meters...

(77c) is the answer to an echo question in (77b). The deleted element perceived by the native speaker is *thâunán*. This proves that *thâunán* is the external node and there is no quantifier phrase like (78).

(78) **dæːŋ miː phâː săːm méːt thâunán níː*
Dang have cloth three class. only these

The ungrammaticality in (78) proves that demonstrative adjective is attached in the internal structure of QP. (79) is the phrase marker of (76).

(79)



(80) *phâ: săːm méːt kwàː níː thâunán*
cloth three class.plus these only

only these three meters of cloth plus

(81) *phâ: săːm méːt rǽːk níː thâunán*
cloth three class. the first these only

only these first three meters of cloth

(82) **phâ: săːm méːt nìŋ níː thâunán*
cloth three class. one this only

only this one meter of cloth

(80), (81), (82) show how *níː* interacts with the postmodifiers *kwàː* and *rǽːk*. These two postmodifiers can occur before demonstrative *níː* but not the postmodifier *nìŋ* which is not surprising because 'this one' is quite redundant in Thai; even though, there are some languages that permit this structural configuration. *kwàː* and *rǽːk* always occur before *níː* because we cannot have the sentences like (83) and (84).

(83) **phâ: săːm méːt níː kwàː thâunán*

(84) **phâ: săːm méːt níː rǽːk thâunán*

The demonstrative *níː* gets attached to another level within the QP. The evidence that can support this is from (85).

(85) a. *dæːŋ miː phâ: săːm méːt kwàː năi thâunán ná*
Dang have cloth three class. plus which only particle
one
(echo question)

Which three meters of cloth plus does Dang have?

b. e *níː năi*
this one particle

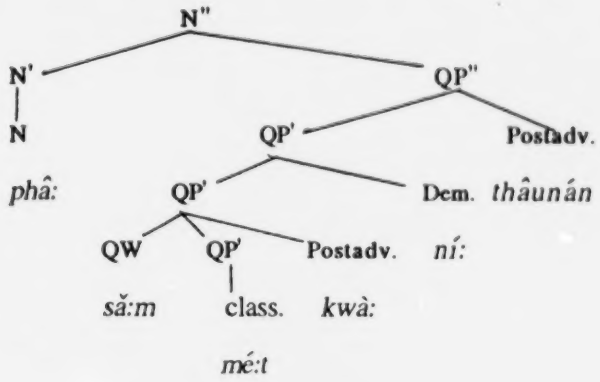
(86) a. *dæːŋ miː phâ: săːm méːt rǽːk năi thâunán ná*
Dang have cloth three class. the which only particle
first one

Which first three meters of cloth does Dang have?

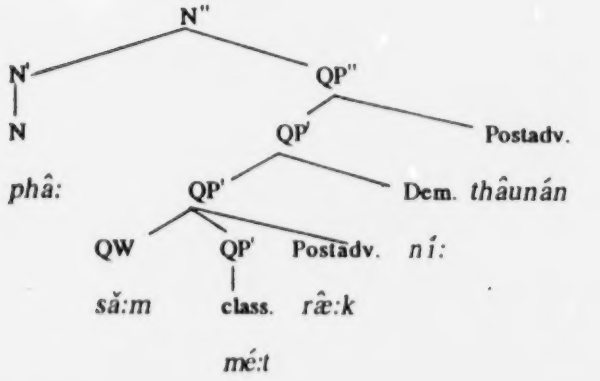
b. **e** *ní:* *năi*
this one particle

In (85a) and (86a), *ní:* is substituted by the question word *năi*. In (85b) and (86b) which are the answers to (85a) and (86a) respectively, *ní:* can occur alone and the empty elements are perceived as *să:m mé:t kwà:* and *să:m mé:t râ:k* respectively. (87) and (88) represent the phrase markers of (85) and (86) respectively.

(87)



(88)



In (87) and (88), *ní:* comes off at upper level (another QP') from the arguments developed in (85) and (86) aforementioned.

(89) *phâ: să:m mé:t thâunán khŏ:ŋ phĭ:n ní:*
cloth three class. only of class. this

only three meters of this cloth

(90) a. *dæ:ŋ mi: phâ: sǎ:m mé:t khɔ̌:ŋ phǐ:n ní:*
Dang have cloth three class. of class. this

Dang has only three meters of this cloth.

b. *dæ:ŋ mi: phâ: ki: mé:t thâunán ná*
Dang have cloth how many class. only particle

khɔ̌:ŋ phǐ:n ní: (echo question)
of class. this

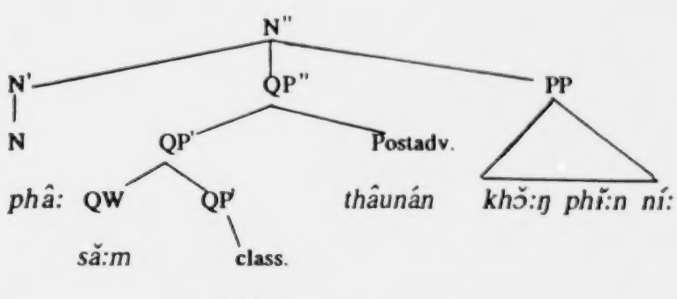
Dang has only how many?

c. *dæ:ŋ mi: sǎ:m mé:t thâunán* e
Dang have three class. only

Dang has only three meters...

(90c) is the answer to the echo question of (90b). The empty element is perceived as the prepositional phrase (PP). This reveals the evidence that PP should be detached from QP and is a different phrase-level category all by itself as displayed in (91).

(91)

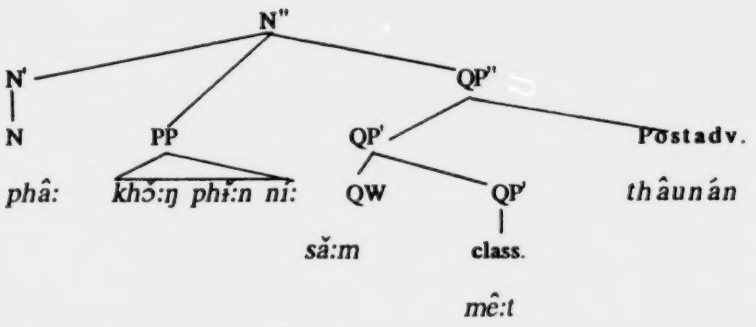


(92) *phâ: khɔ:ŋ phǐ:n ní: sǎ:m mé:t thâunán*
cloth of class. this three class. only

only three meters of this cloth

In (92), PP and QP are reversed in order. This shows that the PP and QP have free relative ordering and therefore are attached at the same level of phrase structure. (93) is the diagrammatic representation of (92).

(93)



Last but not least, the postadverb *thâunán* can modify only nouns without the numeral classifier as in (94).

(94) *kæ̂:w* *thâunán*
glass that many

that many glasses

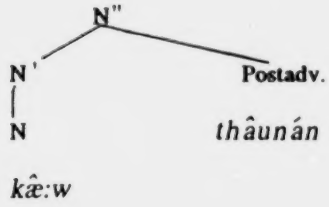
However, the meaning of *thâunán* is not 'only' anymore. It means 'that much' or 'that many.'

(95) *dæ:ŋ mi: kæ̂:w thâunán mâi phɔ: rɔ:k*
Dang have glass that many not enough particle

Dang has not enough glasses.

In this case, *thâunán* does not occur in the QP but it modifies the head noun all by itself and comes off N". (96) is the associated tree diagram of (94).

(96)



From the overall structures of the quantifier phrases and the arguments provided thus far, we have seen how X' Syntax deals with the data in Thai. This model remedies the deficiency of traditional and early transformational grammar as it

provides insightful analyses based on distinctions between intermediate level nodes which display internal hierarchical structure as well as a linear structure of the phrase. In addition, this leads to an account of the different meanings of the structure itself.

NOTES

1 a kind of question one utters when a previous sentence one has heard was either somewhat inaudible or unbelievable.

2 or any cardinal numbers except all the digital words: 10, 100, 1,000, 10,000, 100,000, 100,000,000

3 the question word used in an echo question when QP has demonstrative adjective as it member: *kì:* + classifier + *nǎi* . *nǎi* means 'which one' which characterize the semantic nature of demonstrativeness.

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